

# Building Editor Overview

## Community Guide

The Building Editor is a simple structure editor within GameGuru that enables the user to create buildings and structures without any required knowledge of 3D modelling. This tutorial was made shortly after the V1.14 version of the Building Editor was released, compiled from community help and advice.

Check the community forum at <https://forum.game-guru.com> for any possible feature updates that are not described in this tutorial. If you prefer a video tutorial, we recommend the 'quick start guide' which can be found on YouTube: <https://www.youtube.com/watch?v=6ST1bMzilEw>

### Contents

- Layout and Functions
- Controls and Navigation
- The Building Grid
- Start Building
- Roof, Doors and Windows
- Link the Models to your Building
- Saving your Building
- Using your Model in a Game
- PFB Files
- Multiple Building Sites on the Map
- Textures and Materials
- Tips and Tricks

## Layout and Functions

When you've started GameGuru, you will see the tab 'builder', click the tab to open.

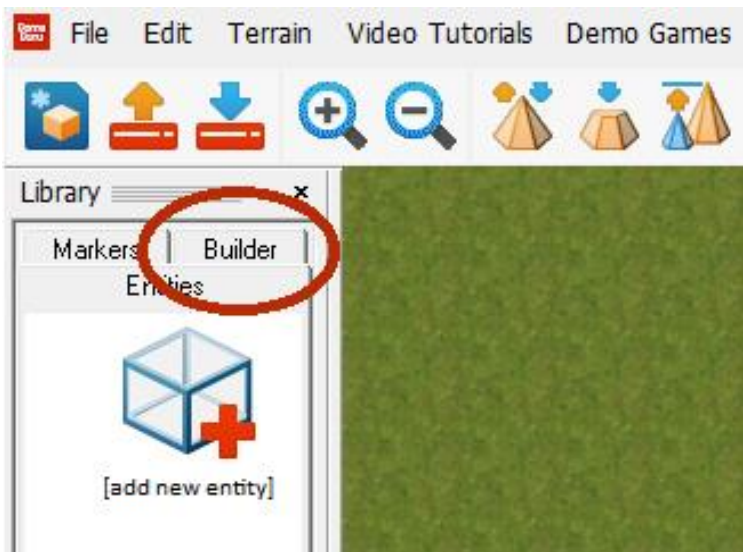


Fig.1



Fig.2

In the builder tab (see fig2) you see a list with icons which point to several prefabs which we will use to create our buildings and other constructions.

The first icon at the top of the list is quite self-explanatory; the cross is clicked to add a new building site on the map. More prefabs can be found at <https://forum.game-guru.com/thread/217389>

## Controls and Navigation

LMB = paint prefab

SHIFT + LMB = remove prefab \*

LMB + drag = select one or more items \*\*\*

Ctrl + LMB = paint prefabs with a locked axis in a chosen direction

Scroll wheel or PGUP/PGDN = adjust the height of the building grid \*\*

R = rotate prefab

B = toggle between normal/grid/snap mode \*\*\*

TAB = clip function (adjust clip height by pressing CTRL and using your scroll wheel) \*\*\*


Use the WASD keys or arrow keys and RMB to navigate through the scene

Notes:

\* In order to remove a prefab or to cut out a part of a prefab for a door or window, you need to have the same texture selected as is applied to the prefab which you want to remove or edit

\*\* The height will be adjusted in steps according to the height of the chosen prefab

\*\*\* Only active in entity mode

Click on  to place a building site.

You will see a yellow ball attached to your mouse cursor, drag it to the place on the map where you want to place your building site and press the LMB.

After placing your building grid, the builder is ready for use and you'll see the following menu in the lower right corner of your screen.



This menu shows which keys to use in the editor and 16 textures are displayed including the material indication.

S=Stone M=Metal W=Wood G=Glass and so on, the full material list can be found in the docs map.  
c:\programfiles(x86)\steam\steamapps\common\game guru\docs

At this building site you can use 16 different textures for your model, however, you can add more building sites and link them with the link entity feature so that everything stays in place when you move your structure.

You can click on one of the 16 textures to select a texture or you can choose to replace the textures by clicking on a texture with the RMB, this will open the texture folder in which the textures are stored.

Texture path c:\programfiles(x86)\steam\steamapps\common\game guru\files\ebebank\texturesource

The textures are in DDS format, if you need a texture viewer to review them you can download WTV at [http://www.nvidia.com/object/windows\\_texture\\_viewer.html](http://www.nvidia.com/object/windows_texture_viewer.html)

Visible on the grid is the box of a prefab with an arrow which points to the right. (fig3)

The arrow is an indicator for in which direction a prefab be placed.

The textures are seamless and tileable, hence they cannot be rotated inside the Building Editor.

## The Building Grid

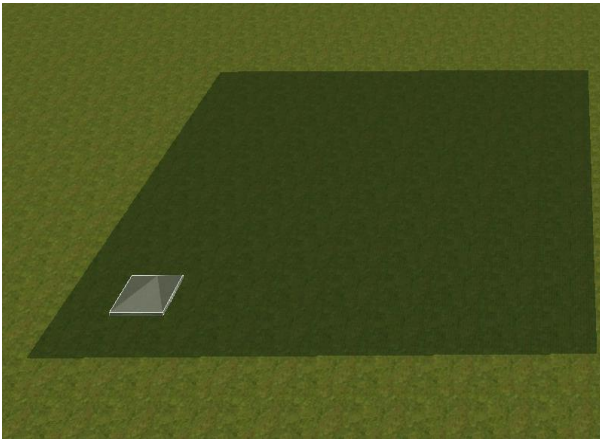


Fig.4



Fig.5

After placement you have a square grid 1000x1000 inch in front of you, the yellow ball which was attached to the mouse cursor is not visible when Building Editor is active. (fig4)

However it is important to know that its position is on the lower left corner, it will be the axis point of our created model. (fig5)

For a building it is thus preferable to start in the lower left corner of the grid so that it is close to the axis point.

## Measurements

The floor and wall prefabs are 100x100x5 inch or 254x254x12,7cm, one cube is 5x5x5 inch or 12,7x12,7x12,7cm.

## Start Building

So now let's get to the fun part, create our first building. This should be quite straightforward and self-explanatory, choose the desired prefab from the list, select the preferred texture/material and start building. The rotation function R allows us to put a wall on the side of the floor as seen in fig6 or on the floor as seen in fig7.

In case of the outer walls, placing them to the side means we do not have to repaint the first layer. see fig8



Fig.6

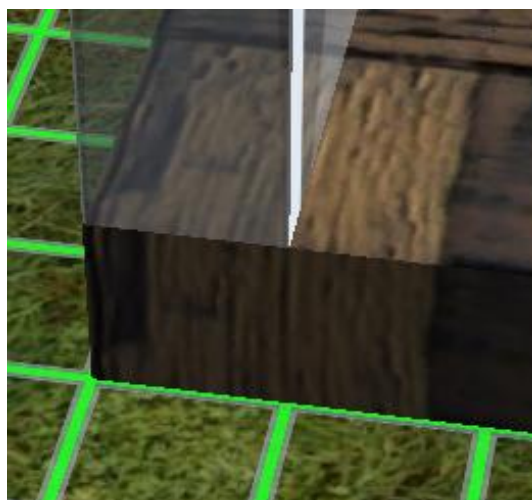


Fig.7



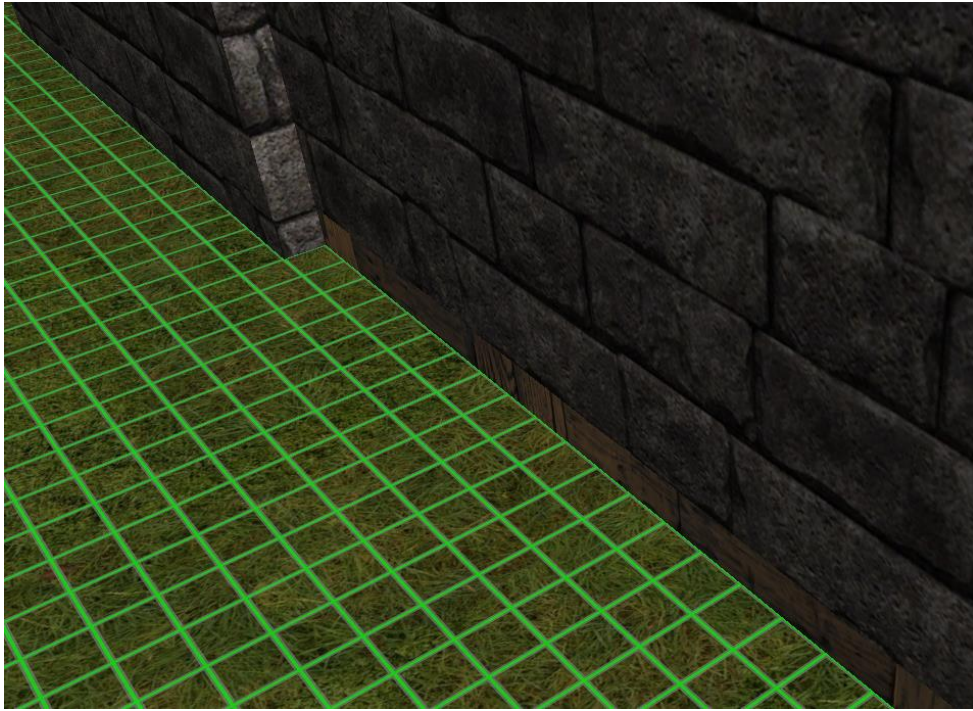


Fig.8

Naturally this also means that we can place two walls against each other so we can have a different texture on the inside of the building.



Fig.9

## Roof, Doors and Windows

When you have created a building, naturally you will want to place a door, a window and a roof. In the entity library there is a folder named 'Fixtures' which contains the roof parts, doors, windows and frames, but you can also opt to use any other entity if you prefer that. Our choice for this tutorial is a gothic window from underworld.

1. Go into Entity mode by pressing E and select the tab Entities in the library.
2. Press 'add new entity' and scroll down to F to find the folder 'Fixtures'.
3. Select the preferred model (roof/door/window) for placement in your building by double clicking on the thumbnail image from the model with the LMB.
4. Place the door or window frame at the desired position so you'll know where you have to remove a part of the wall.
5. To go back into Building Editor, click on the ball and select edit in the widget list.

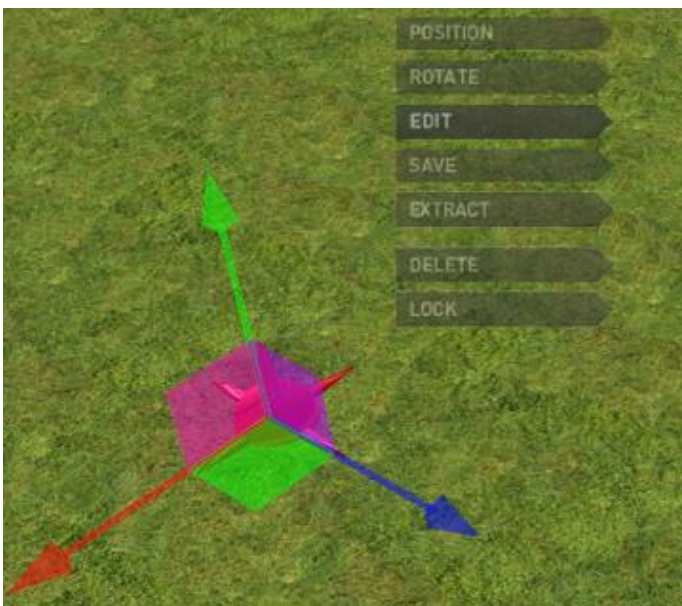


Fig.10

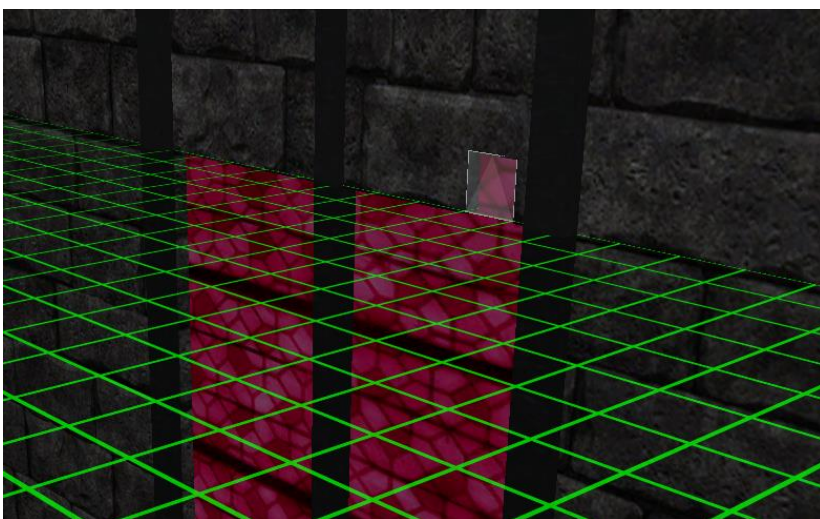


Fig.11

To make the doorway or opening for a window in the wall, choose a prefab, select the same texture of the wall which you want to modify, hold down SHIFT and click the LMB to make an opening. The fastest way is to use the column and row prefabs in order to remove a section of the wall for the door. For a small window you can use the block prefab or the cube.

## Link the Models to your Building

The models which you use in your Building Editor building must be linked so that they stay in place when your building is moved. Click on the model which you have placed, in the widget menu which opens, choose extract.



When you click on extract, you will see that the model lights up red (static) or green (dynamic). By pressing and holding down L, the whole structure lights up as seen in the image. (fig12) While L is pressed down, click the LMB to link the model to your building.

**Note:** make a list of the models which you use for your building so you know which models you have used and in which folders they are stored.

If you hover over your building with the mouse cursor, the whole building including the linked models should light up as an indication that they are linked. You can still select the linked model itself and adjust its position if needed.

For the roof parts, doors and windows to be placed at the same height, you can duplicate a linked model which you have placed and linked to your building. To do so, select and click on the model, choose extract, hold down SHIFT and click the LMB to make a copy, you can make multiple copies by clicking a few times with the LMB while Shift is pressed down. The copies are already linked to your building since you copied a linked model, so you only need to place the copy at the right position.



Fig.13



## Saving your Created Building

1. Click on the ball, in the widget menu, select save.
2. Type the name of your model and click save.



Fig.14

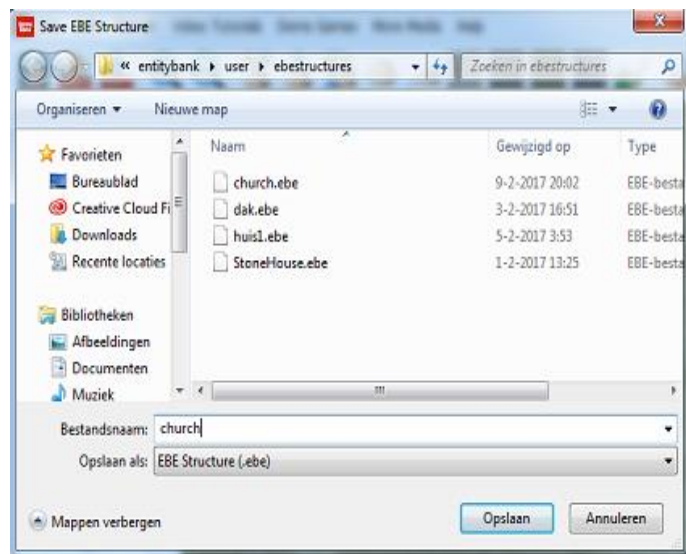


Fig.15

3. Your created models will be saved in your user map in the map entitybank.  
c:\programfiles(x86)\steam\steamapps\common\game guru\files\entitybank\user\ebestructures
4. When you have saved your model, 7 files are created.

### *-yourmodel.bmp*

This is a small thumbnail image for your building which is shown in the entity library. You can leave it as it is, but you can also replace it with a small picture of your building if you prefer that. Be aware that this file must be a BMP and no larger than 64x64.

- 1234567890\_D.dds Diffuse texture map.
- 1234567890\_N.dds Normal map (bump)
- 1234567890\_S.dds Specular map (surface highlight color)

**Note:** the texture files must contain the same number or name, see textures and materials.

### *-yourmodel.ebe*

This file contains the information of your Building Editor structure building grid and is needed if you want to edit your building.

If you remove this file, you can use your building like any other model but you can't edit it anymore.

### *-yourmodel.dbo*

This file is the 3D model which you have created and which you will place in your games.

### *-yourmodel.fpe*

The FPE file contains the data which determines how your model is presented in a game. You can customize this file so we'll go through the settings of the FPE.



## **FPE**

```
;EBE Entity

;Header
desc          = church

;AI
aimain        = default.lua

;Orientation
model         = church.dbo
texturepath   = ebebank\default\
textured      = 6488699641932647897_D.dds
effect        = effectbank\reloaded\entity_basic.fx
transparency  = 0
scale         = 100
defaultstatic = 1
forcesimpleobstacle = 3

;EBE Builder Extras
isebe         = 1
```

This is the data which is contained in the FPE file. As you can see it describes the name of the model. (church) which model must be loaded. (church.dbo). The texture path and which texture should be used. The field Isebe = 1 should be set to = 0 in order to have all rotation axis available.\* These are the main settings which you can customize, the other settings should not be altered. If you rename the BMP, your model.dbo or the texture files, you also need to rename them accordingly in the FPE so that the name or numbers in the FPE match with the file names.

Note \* with isebe set to =0, you'll have all rotation axis but the edit function of Building Editor is disabled. If you need to edit your building, set isebe back to =1

## **Also Save your Map**

You can and should also save the map so you can load your creation with all the entities and other building sites linked and in the right place. In doing so, you will always have your complete building site map as a reference and ready to edit your building(s). For your convenience you can name it B\_yourmodel.fpm so you'll know that this map contains your building site(s).



Fig.16

### Using the Model in a Game

When you load your created building for placement in your game, you'll notice that it is only the structure itself without the linked entities such as the roof/doors/windows and frames.



Fig.17



Fig.18

Place the entities and link them to your building, add some scenery and enjoy your first creation. If you need all the rotation axis, set isebe to =0 in the FPE. Use the clip function if you want to place models and furniture inside your building. In entity mode, press TAB for clipping at a certain height. To adjust the clip height, press CTRL and use the scroll wheel to lower or raise the clip height. Press TAB again to close the clip function.



Fig.19





Fig.20



Fig.21



Fig.22

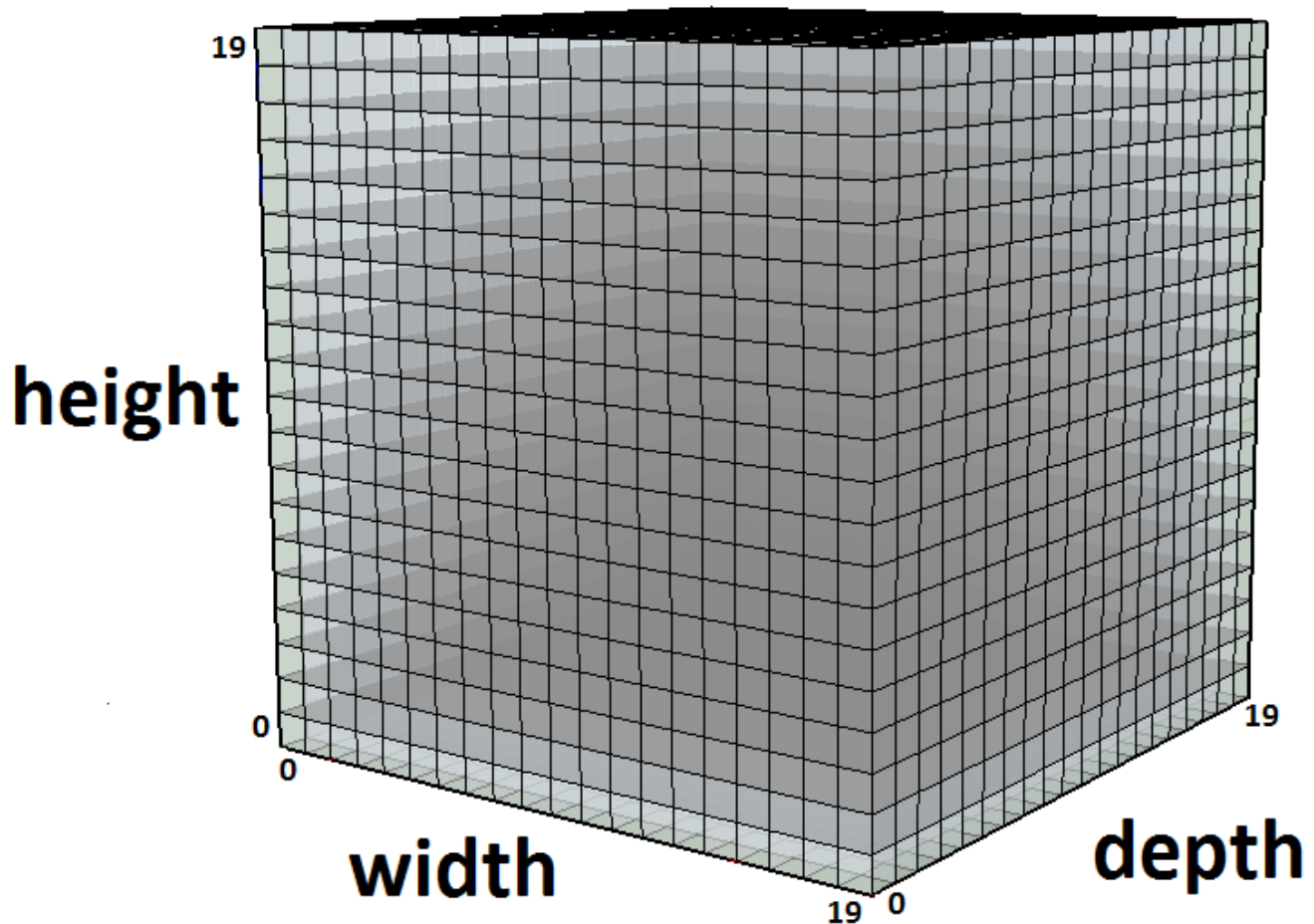
## **PFB files**

The PFB files contain the information on the prefab patterns. They can be edited by changing the pattern where 1 is replaced with 0 so that the particular block is removed. For example, the cube is;

```
width=1
height=1
depth=1
;Preserve Mode ( 0-simple )
preservemode = 0
;Pattern
prow0x0 = 1
```

A fully filled pattern is a solid block of 100x100x100. The pattern is build up in 20x20x20 layers, width/height/depth so you have 400 lines like this, prow..x.. = 11111111111111111111  
Quite a list but don't worry, a solid block is already available for download. (see Layout and functions)





As you have seen, the first cube is 0x0. The first row is all 0 so if you look at the row-prefab you will see only one line in the file.

```
;pattern
prow0x0 = 111111111111111111
```

The second row of the first layer is 0x1 whereas 0 is the first layer and 1 is the second row in the first layer. If we want to add the second row we also need to change the depth value from 1 to 2 otherwise the second row will not appear.

The pfb file data with the second row added is as follows.

```
;EBE Spec (max 20x20x20)
Width =20
Height = 1
Depth = 2
```

```
;Preserve Mode ( 2-only add if empty cube area )
preservemode = 2
```

```
;pattern
Prow0x0 = 111111111111111111
Prow0x1 = 111111111111111111
```

The floor-prefab is the whole first layer of the block, the pattern file is as follows.

```
;EBE Spec (max 20x20x20)
```

```
width = 20
```

```
height = 1
```

```
depth = 20
```

```
;Preserve Mode ( 0-simple )
```

```
preservemode = 0
```

```
;Pattern
```

```
prow0x0 = 11111111111111111111
```

```
prow0x1 = 11111111111111111111
```

```
prow0x2 = 11111111111111111111
```

```
prow0x3 = 11111111111111111111
```

```
prow0x4 = 11111111111111111111
```

```
prow0x5 = 11111111111111111111
```

```
prow0x6 = 11111111111111111111
```

```
prow0x7 = 11111111111111111111
```

```
prow0x8 = 11111111111111111111
```

```
prow0x9 = 11111111111111111111
```

```
prow0x10 = 11111111111111111111
```

```
prow0x11 = 11111111111111111111
```

```
prow0x12 = 11111111111111111111
```

```
prow0x13 = 11111111111111111111
```

```
prow0x14 = 11111111111111111111
```

```
prow0x15 = 11111111111111111111
```

```
prow0x16 = 11111111111111111111
```

```
prow0x17 = 11111111111111111111
```

```
prow0x18 = 11111111111111111111
```

```
prow0x19 = 11111111111111111111
```

Now, the depth value is changed from 1 to 20 so the whole first layer is present.

The wall prefab is essentially the same, only instead of depth, height is added, thus you will see 0x0 up to 19x0 and width20, height20, depth1.

You can make a nice pattern in the above table by changing 1 into 0 and this all the way up to the nineteenth layer.

Keep in mind however, since 0x0 is at the bottom of the block, the pattern order is upside down, you could however make a file in reversed order from 19 to 0.

## The Preserve Modes

Preserve mode = 0 : Existing cubes are replaced, hence it will repaint other cubes if for instance a wall is placed on the floor. (see fig24). If we remove the wall, every cube with the same texture is removed which means we have a missing row in the floor. (fig25)

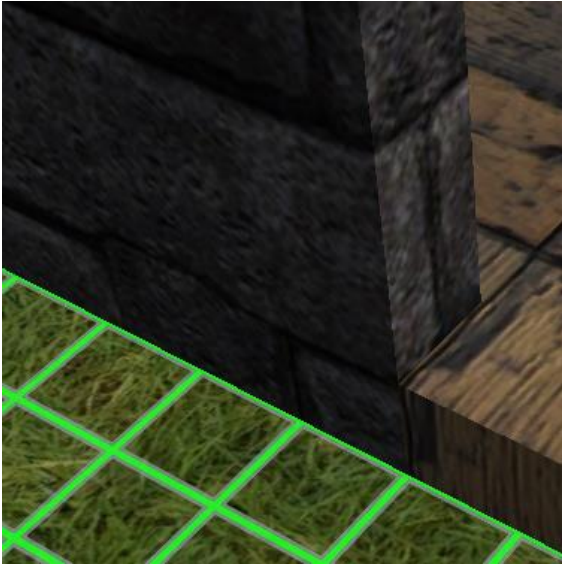


Fig.24

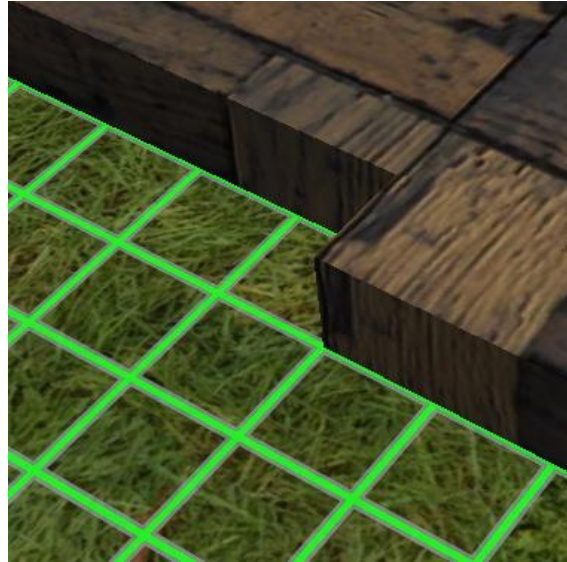


Fig.25

Preserve mode = 1 : Existing cubes are not replaced, so the changing of the texture as seen when preserve mode = 0 is prevented by using preserve mode = 1. Hence, if we have placed a wall and decide to remove it, the floor will remain intact. Also if we have placed a stairs for instance that overlaps the wall, we can delete the wall without deleting the cubes of the stairs because inside neighbouring cubes will not be removed.. (see fig26/27)

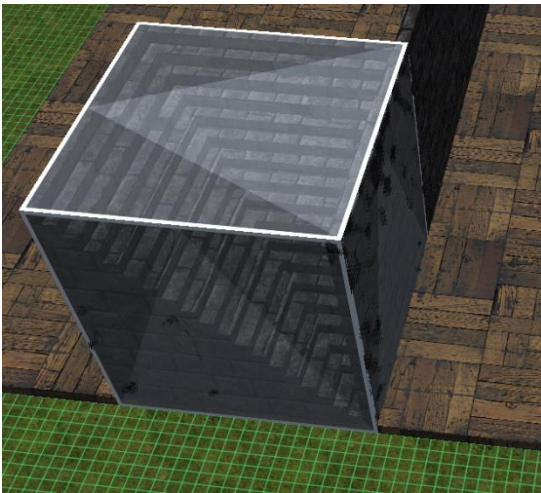


Fig.26

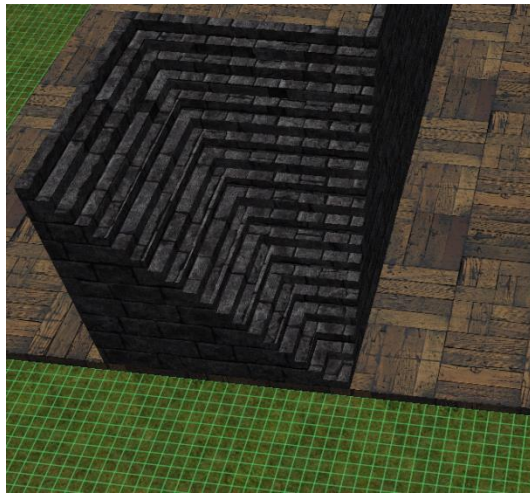


Fig.27

Preserve mode = 2 : Existing cubes are not replaced, a stairs does not cut into floors and walls because only empty areas within the pfb pattern are filled.

## Multiple Building Sites on a Map

If you want to make large structures you can place multiple building sites on the map, for the right alignment you need to switch from normal to grid mode. When you have opened a new map, the default mode is terrain mode, press E to switch to entity mode so you can toggle between normal/snap/grid mode by pressing B. Look at the lower right corner of your screen to see in which mode you currently are (see fig28) and switch to grid mode by pressing B 1 or 2 times.



Fig.28

Click on the builder tab and select add new site, when you drag the cursor over the map you will see that the yellow ball jumps to grid positions on the map. Because the grid of this building site is not visible when you place another building site next to it, you can place a prefab in a corner so you have a visual where the grid stops and the second building grid should be placed.



Fig.29

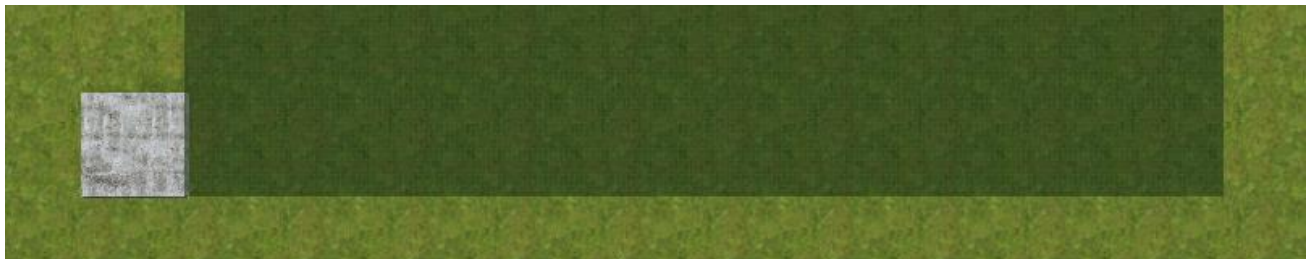


Fig.30

When you place the second grid you will see that it is nicely aligned as is seen in fig 30. In this way you can add multiple building sites and switch between them by clicking on the ball or the structure on a building site.

If you want to move your structure which is built on several building grids, you can use the link entity function, but you can also press E to go into entity mode and select the whole structure by pressing the LMB and drag over it with the mouse cursor. (see fig31)



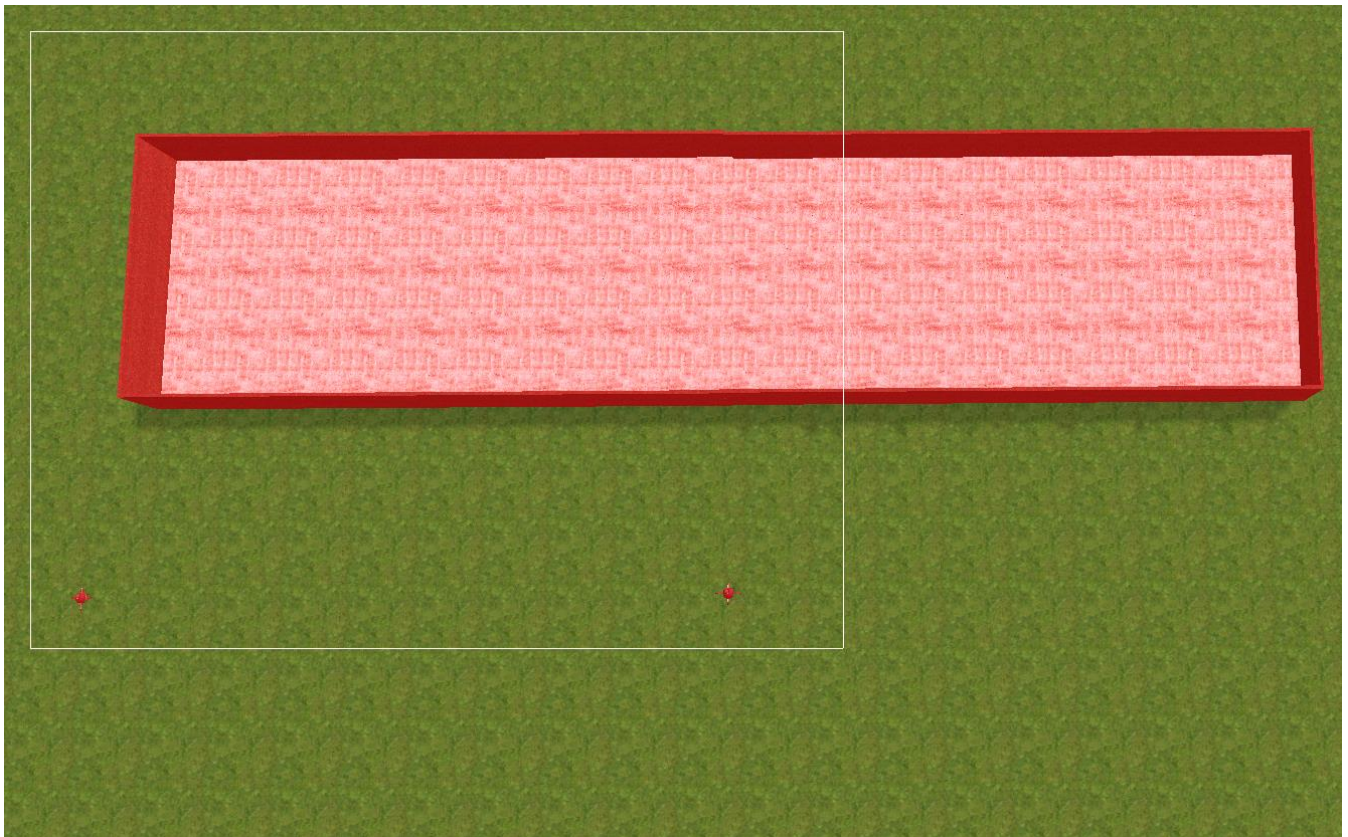


Fig.31

This way of moving the whole structure is much easier and logical since you don't have to remember the main building site to which every other building site is linked and you thus also do not have to move the building sites out of their position in order to link them to the main building site.

Add some height if you want to by using the green arrow of the widget to adjust the height of the building site, than you could place a cave model underneath for instance. Hide or lower the terrain and place a cave or dungeon at or slightly below the waterline, lots of possibilities.

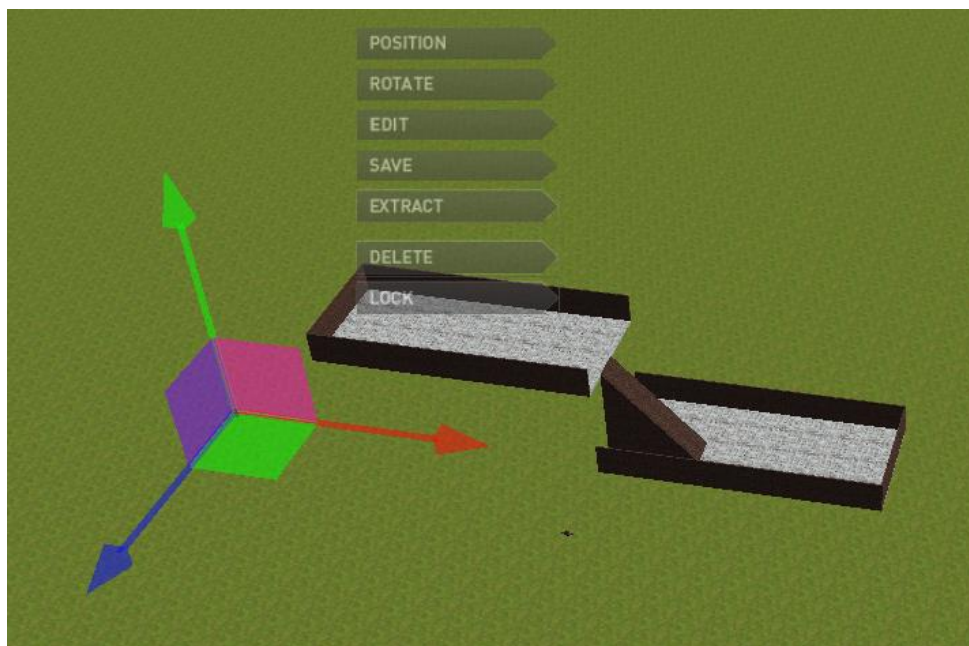


Fig.32

Of course, every building site is a part of your whole structure and you need to save them as separate parts.



## Textures and Materials

If you want to use other textures for your structure, my recommendation is to visit <http://www.textures.com>. Be aware that they must be seamless and tileable for use in Building Editor. You can place .png and .jpeg textures in the texture source map within ebebank.

c:\programfiles(x86)\steam\steamapps\common\game guru\files\ebebank\texturesource

When you save your construction, an atlas map is made in DDS format of the 16 textures which are visible in the menu. Those are the three texture maps, \_D diffuse/\_N normal/\_S specular. They have the same number and if you want to rename them, make sure you name all three of them identical without erasing the \_D, \_N and \_S. Also, if you do rename them, do not forget to replace the texture number in the FPE file with the identical name so that the texture map is loaded properly when you use your model.



Fig.33 – Without

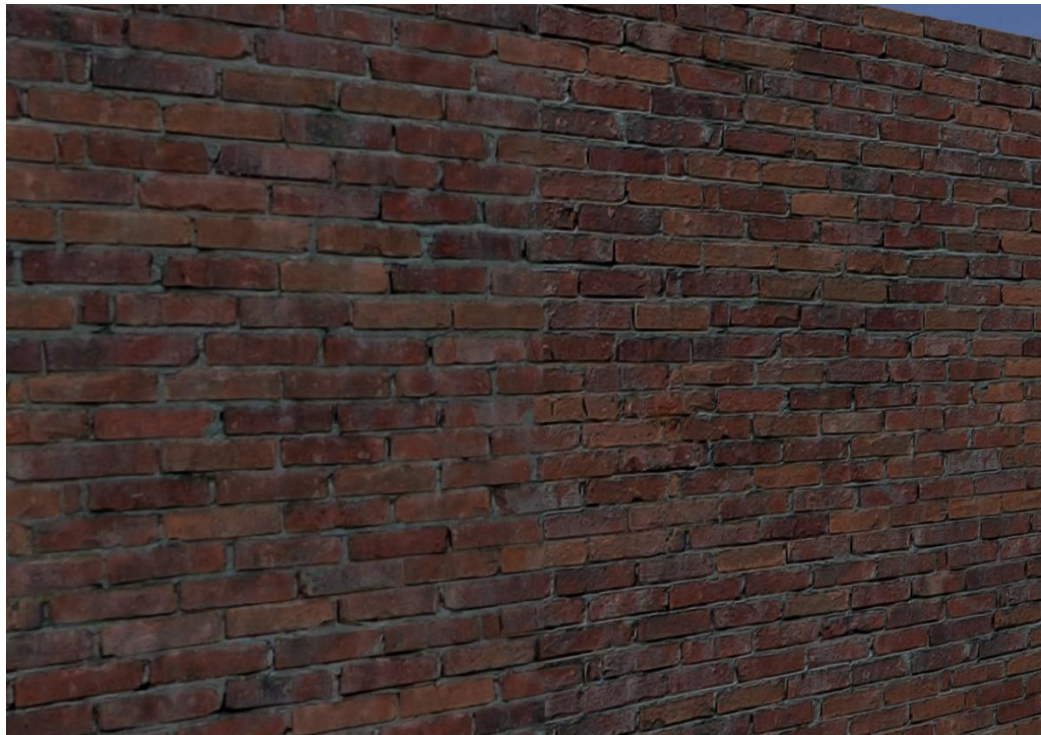


Fig.34 - With normal and specular map

The two images above, 33/34 show the difference between a texture with, or without a normal and a specular map. As you can see, it is a great improvement when normal and specular maps are used.

And they are easy to create with Normalizator, visit this link for info and a help.pdf about Normalizator.  
<https://forum.game-guru.com/thread/216095>

From the author (dated 21<sup>st</sup> Feb 2017):

*The application will appear in Steam Greenlight. You can buy it there in the future, but if you want to get early access before the release in the Steam, you can make any donation and then you can have it before.*

You'll find the donate button in the link.

## **Materials**

In the lower right menu of Building Editor (see fig3) you can see letters on top of the textures. They can be set to have the right sounds in the game. For instance, if you place a steel floor, use -/+ to select M for metal.

The material list;

- GenericSoft

S = Stone

M = Metal

W = Wood

G = Glass

L = Liquid Splashy Wet

F = Flesh (Bloody Organic)

H = Hollow Drum Metal

T = Small High Pitch Tin

V = Small Low Pitch Tin

I = Silly Material

A = Marble

C = Cobble

R = Gravel

E = Soft Metal

O = Old Stone

D = Old Wood

Z = Shallow Water

U = Underwater

## Tips and Tricks

With Building Editor it is possible to make buildings and large structures, but you can also make small parts for use with your structures and buildings like this simple pillar. This is done by creating and saving one square pole, setting 4 poles over each other and rotating them to get this effect.



Fig.35

It should have another texture of course, marble maybe. A nice marble pillar in the ballroom of Pales.

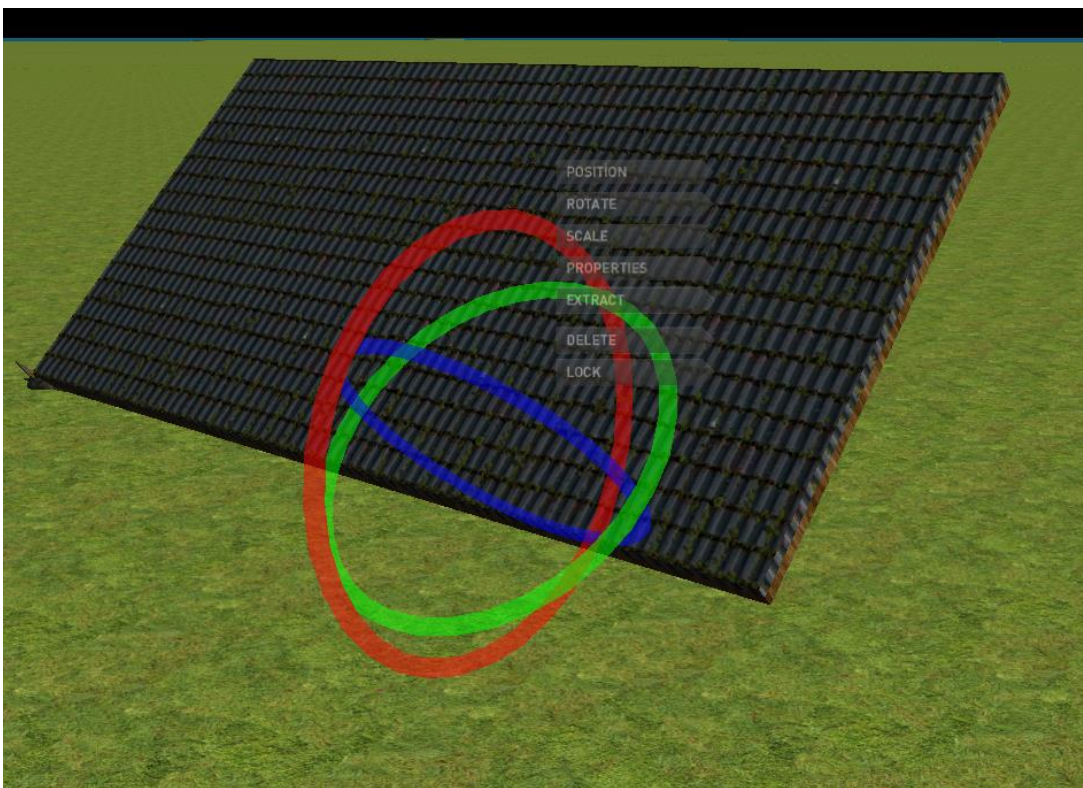


Fig.36

A roof for a house, as you can see, I've set 'isebe =1' to 'isebe =0' so I have all the axis available. Also notice the ball in the lower left corner of the roof which is our axis point.

The tunnel is also created with rotation; a long wall is created in Building Editor and saved, placed on top of each other in entity mode and rotated to create the ceiling





Fig.37

Besides all rotation axis being available, we can also scale the created parts which is quite handy to make an open stairs.



Fig.38

With the column prefab, make a wall 3 wide for the sides of the stairs and save it. With the cube prefab make a step of two rows and 8 cubes wide and save it. Set isebe to 'isebe =0' in the FPE and place both models on the map. Lengthen the side of the stairs and make it smaller with the scale function, reduce the height of the step with the scaling function. Use the rotation function for the slanted position of the side of the stairs and then extract it to make a copy so you have two identical sides. Place the steps and you're done. Should the axis point be visible in test mode, save your map. In the FPE file, change the isebe setting back to 'isebe =1' and reload your map.